

REMARKS

Applicant wishes to thank the Examiner for his suggestions concerning amendments to the claims that overcome problems under 35 U.S.C. § 112, second paragraph, and that bring Applicant's independent claims 1 and 45 under the provisions of 35 U.S.C. § 112, sixth paragraph. Applicant has incorporated the Examiner's suggestions into the claims amended herein to place the application in condition for allowance.

Applicant has amended claims 1, 19, and 45. Claims 2-18, 30-37, 40-44, and 48 are cancelled herein pursuant to the Examiner's previous restriction requirements. The following remarks are provided in response to the claims rejections contained in the Examiner's Final Office Action which was submitted prior to the filing of this Preliminary Amendment and the concurrently-filed Request for Continued Examination of the instant application.

I. REJECTIONS UNDER 35 U.S.C. § 112

Applicant respectfully traverses the Examiner's rejection of claims 19-29 and 38-39 under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 19 is amended herein to include reference to "a suction housing," thereby placing correcting the antecedent basis problem and placing the claim in condition for allowance.

Dependent claims 20-29 and 38-39 ultimately depend upon amended dependent claim 19, and thus, incorporate by reference all of the elements and limitations of claim 19. 35 U.S.C. § 112, fourth paragraph. Therefore, the reasons for rejection of Applicant's

claims 19-29 and 38-39 under 35 U.S.C. § 112, second paragraph, which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

II. REJECTIONS UNDER 35 U.S.C. § 102(b)

Applicant respectfully traverses the Examiner's rejection of claims 1, 19, and 38 under 35 U.S.C. § 102(b) as being anticipated by Cann et al., U.S. Patent No. 5,533,955. Applicant has amended independent claim 1 to delete the phrase "located at or beyond said discharge position" from the "means for producing suction" limitation of said claim. On page 5 of the Final Office Action, the Examiner indicated that this phrase modified the means for producing suction with sufficient structure to remove the claim from interpretation under 35 U.S.C. § 112, sixth paragraph. By removing this structural language from the claim, Applicant's independent claim 1 is rendered a means-plus-function claim. In light of this amendment, Applicant's claim is clarified to demonstrate that the Cann reference does not disclose the means for producing suction claimed by Applicant as defined in Applicant's specification and drawings. The means for producing suction element of amended independent claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Referring to paragraph [56] of the specification, Applicant discloses that the means for producing suction element of claim 1 comprises a suction housing 90. The suction housing 90 includes a vortex box 92 located within its interior. See Applicant's specification, paragraph [57], and Figures 1A and 1B. Said suction housing 90 also

includes an upper (or top) portion 94 having fans 113 and a lower (or bottom) portion 98 mounted below said upper portion. Id. Positive pressure is created in the upper portion 94 to induce a downward flow of air over the elongated strips 32 as they travel on the perforated conveyor 14. Id. Negative pressure is created in the lower portion 98 to produce negative air flow from below said perforated conveyor 14. See Applicant's specification, paragraphs [57] and [58]. The vortex box 92 of said suction housing 90 further includes rounded interior periphery corners 96, which are located inside, and not on the exterior, of the vortex box, to decrease resistance in the flow of air drawn through said vortex box and parallel interior elements 100 to enhance the vortex effect. See Applicant's specification, paragraphs [57] and [58], and Figure 9A. The preferably rectangular vortex box 92 includes a plurality of chambers in the interior of the bottom portion which serve as vents to optimize the pressure of the air impinging upon the strips 32. See Applicant's specification, paragraph [59]. Said chambers are equally spaced to reduce the necessity for further cleaning of the strips. Id. Each chamber has an individual outlet within the vortex box to empty said chamber's stream of air into the main corridor of the vortex suction opening port 102. See Applicant's specification, paragraph [60], and Figure 9C. The design of the suction housing permits lighter contaminants to be separated from heavier contaminants for disposal and prevents large contaminants from blocking airflow, thereby reducing the need for stopping operation of the shredding device during cleaning. See Applicant's specification, paragraphs [60] and [61].

The Cann reference discloses a suction device (16) comprising a housing (70) with an outlet (76) connected by conduit (78) to an inlet formed in the top wall (80) of a drum (82). See Cann et al., column 5, lines 3-18. The top wall (80) mounts a vacuum pump (84) that creates a negative pressure within housing (70). Id. Clearly, these elements are not the same as those described by Applicant's specification with respect to Applicant's means for producing suction in amended independent claim 1. Thus, the means for producing suction element of claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. In view of the descriptions of the means for producing suction contained in Applicant's specification and drawings, the Cann reference does not disclose said means for producing suction as claimed by Applicant. The reasons for rejection of Applicant's claim 1 under 35 U.S.C. § 102(b), which were cited in the Examiner's Final Office Action, are corrected herein and the claim is now placed in condition for allowance.

Dependent claims 19 and 38 ultimately depend upon amended independent claim 1, and thus, incorporate by reference all of the elements and limitations of independent claim 1. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. Therefore, the reasons for rejection of Applicant's claims 1, 19, and 38 under 35 U.S.C. § 102(b), which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

III. REJECTIONS UNDER 35 U.S.C. § 103(a)

A. Claim 39

Applicant respectfully traverses the Examiner's rejection of claim 39 under 35 U.S.C. 103(a) as being unpatentable over Cann et al., U.S. Patent No. 5,533,955. Applicant has amended independent claim 1 to delete the phrase "located at or beyond said discharge position" from the "means for producing suction" limitation of said claim. On page 5 of the Final Office Action, the Examiner indicated that this phrase modified the means for producing suction with sufficient structure to remove the claim from interpretation under 35 U.S.C. § 112, sixth paragraph. By removing this structural language from the claim, claim 1 is rendered a means-plus-function claim. In light of this amendment, the Cann reference does not disclose the means for producing suction claimed by Applicant. The means for producing suction element of claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Dependent claim 39 ultimately depends upon amended independent claim 1, and thus, incorporates by reference all of the elements and limitations of independent claim 1. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. See current Preliminary Amendment, Section II of the Remarks. Therefore, the reasons for rejection of Applicant's claim 39 under 35 U.S.C. § 103(a), which were cited in the Examiner's Final Office Action, are corrected herein and the claim is now placed in condition for allowance.

B. Claims 20-21

Applicant respectfully traverses the Examiner's rejection of claims 20-21 under 35 U.S.C. 103(a) as being unpatentable over Cann et al., U.S. Patent No. 5,533,955, in view of Cann et al., U.S. Patent No. 5,472,779. Applicant has amended independent claim 1 to delete the phrase "located at or beyond said discharge position" from the "means for producing suction" limitation of said claim. On page 5 of the Final Office Action, the Examiner indicated that this phrase modified the means for producing suction with sufficient structure to remove the claim from interpretation under 35 U.S.C. § 112, sixth paragraph. By removing this structural language from the claim, claim 1 is rendered a means-plus-function claim. In light of this amendment, the Cann reference does not disclose the means for producing suction claimed by Applicant. The means for producing suction element of claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Dependent claims 20-21 ultimately depend upon amended independent claim 1, and thus, incorporate by reference all of the elements and limitations of independent claim 1. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. See current Preliminary Amendment, Section II of the Remarks. Therefore, the reasons for rejection of Applicant's claims 20-21 under 35 U.S.C. § 103(a), which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

C. Claims 20-27 and 45-47

Applicant respectfully traverses the Examiner's rejection of claims 20-27 and 45-47 under 35 U.S.C. 103(a) as being unpatentable over Cann et al., U.S. Patent No. 5,533,955, in view of Campbell et al., U.S. Patent No. 5,156,075. Applicant has amended independent claim 1 to delete the phrase "located at or beyond said discharge position" from the "means for producing suction" limitation of said claim. On page 5 of the Final Office Action, the Examiner indicated that this phrase modified the means for producing suction with sufficient structure to remove the claim from interpretation under 35 U.S.C. § 112, sixth paragraph. By removing this structural language from the claim, claim 1 is rendered a means-plus-function claim. In light of this amendment, the Cann reference does not disclose the means for producing suction claimed by Applicant. The means for producing suction element of claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Dependent claims 20-27 ultimately depend upon amended independent claim 1, and thus, incorporate by reference all of the elements and limitations of independent claim 1. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. See current Preliminary Amendment, Section II of the Remarks.

Applicant has thoroughly reviewed the Campbell reference and finds that said reference does not claim or describe rounded interior periphery corners or parallel interior

elements as stated by the Examiner on page 5 of the Final Office Action. Column 3, lines 45-49, of the Campbell reference describe a chute (46) defined by a top outer wall (44), an inner wall (52), and end plates (48) and (50). These parts of the Campbell invention merely describe the four walls of the chute (44) and do not describe the vortex box 92 and its components located within the interior of the suction housing 90 as described by Applicant's specification. See Campbell et al., column 3, lines 45-49, and Figures 1 and 2. Moreover, the rounded corners, which the Examiner describes as part of the Campbell invention, are tapered sections (54) of the chute (46), which connect said chute to circular duct (56). In the specification of the present application, Applicant describes the rounded interior periphery corners 96 included within the vortex box 92 of said suction housing 90 to decrease resistance in the flow of air drawn through said vortex box and parallel interior elements 100 to enhance the vortex effect. See Applicant's specification, paragraphs [57] and [58], and Figure 9A. Clearly, the rounded interior periphery corners 96 and parallel interior elements 100 of Applicant's specification differ markedly from the four exterior walls and vertically-oriented exterior tapered section (56) defining Campbell's chute (46). Therefore, the reasons for rejection of Applicant's claims 20-27 under 35 U.S.C. § 103(a), which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

In addition, Applicant has amended independent claim 45 to delete the phrase "below the conveyor" from the "means for producing suction" limitation of said claim. By removing this structural language from the claim, claim 45 is rendered a means-plus-function claim. In light of this amendment, the cited references do not disclose the means

for producing suction claimed by Applicant. The means for producing suction element of amended independent claim 45 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Dependent claims 46-47 ultimately depend upon amended independent claim 45, and thus, incorporate by reference all of the elements and limitations of independent claim 45. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. See current Preliminary Amendment, Section II of the Remarks. Therefore, the reasons for rejection of Applicant's claims 45-47 under 35 U.S.C. § 103(a), which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

D. Claims 28-29

Applicant respectfully traverses the Examiner's rejection of claims 28-29 under 35 U.S.C. 103(a) as being unpatentable over Cann et al., U.S. Patent No. 5,533,955, in view of Campbell et al., U.S. Patent No. 5,156,075, and further in view of Ratzel, U.S. Patent No. 5,906,569. As explained in Sections II and III.C. above, the rounded interior periphery corners 96 and parallel interior elements 100 describing the means for producing suction disclosed in Applicant's specification differ markedly from the four exterior walls and vertically-oriented tapered exterior section (56) defining Campbell's chute (46). Moreover, the Ratzel reference merely describes an exhaust port (58) connected to a vacuum for withdrawing and collecting paper articles. See Ratzel, column

6, lines 31-33, and Figures 1 and 2. Ratzel does not claim or describe the means for producing suction that includes a vortex box as described in Applicant's specification.

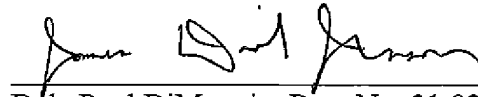
Applicant has amended independent claim 1 to delete the phrase "located at or beyond said discharge position" from the "means for producing suction" limitation of said claim. On page 5 of the Final Office Action, the Examiner indicated that this phrase modified the means for producing suction with sufficient structure to remove the claim from interpretation under 35 U.S.C. § 112, sixth paragraph. By removing this structural language from the claim, claim 1 is rendered a means-plus-function claim. In light of this amendment, the Cann reference does not disclose the means for producing suction claimed by Applicant. The means for producing suction element of claim 1 must be construed to cover the corresponding structure and material described in the specification and equivalents thereof. 35 U.S.C. § 112, sixth paragraph.

Dependent claims 28-29 ultimately depend upon amended independent claim 1, and thus, incorporate by reference all of the elements and limitations of independent claim 1. 35 U.S.C. § 112, fourth paragraph. These elements and limitations include the novel means for producing suction as defined by the structures described in Applicant's specification and drawings. See current Preliminary Amendment, Section II of the Remarks. Therefore, the reasons for rejection of Applicant's claims 28-29 under 35 U.S.C. § 103(a), which were cited in the Examiner's Final Office Action, are corrected herein and the claims are now placed in condition for allowance.

In re application of: LEVINE, Norman D.
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Respectfully submitted,



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